

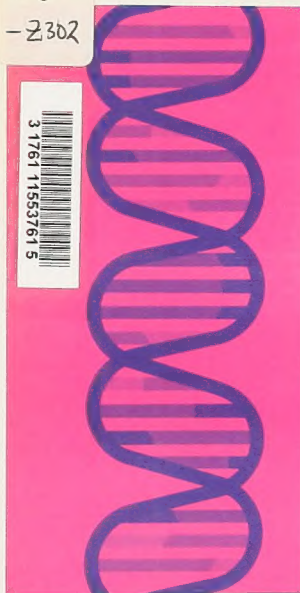
Films for senior studies in science

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These films may be purchased directly from the National Film Board of Canada. They are also available through many educational film libraries and community film libraries.

Please complete and return the enclosed postage-paid reply card, or direct your inquiries to the nearest NFB office, for further information and for arrangements to preview these films.

National Film Board Offices

Atlantic Region

1572 Barrington Street, Halifax, N.S.
Federal Bldg., Dorchester St., Sydney, N.S.
1222 Main Street, Moncton, N.B.
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Pleasantville, St. John's, Newfoundland
17 West Street, Corner Brook, Newfoundland

Quebec

550 Sherbrooke Street West, Montreal 111
72 Carlier Street West, Chicoutimi
100 Carré d'Youville, Quebec 4
124 Vimy Street, Rimouski
50 Couture Street, Sherbrooke
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National Capital Region

Suite 642, 150 Kent Street, Ottawa 4

Ontario

1 Lombard Street, Toronto 210
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388 Dundas Street, London
101 Worthington Avenue East, North Bay
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Prairie Region

344 - 12th Avenue S.W., Calgary 3, Alberta
10031 - 103 Avenue, Edmonton 10, Alberta
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210 Federal Building, Saskatoon, Sask.
1130 Ellice Avenue, Winnipeg 10, Man.

British Columbia

1155 West Georgia Street, Vancouver 5
Post Office Building, Kelowna
545 Quebec Street, Prince George
811 Wharf Street, Victoria

Headquarters

Commercial Division
National Film Board of Canada
P.O. Box 6100, Montreal 101, Quebec

Price: \$220.00

106C 0165 146

Science, Seedbed of Industry

25 minutes 30 seconds color

A presentation of a few of many discoveries made by scientists at a Canada's National Research Council that have become patented and manufactured. The film describes the origins of some of the inventions, invites scientists to explain, and looks in on factories where various items are mass-produced.

Price: \$110.00

106B 0160 009

Universe

26 minutes 10 seconds black-and-white

A triumph of film art, creating on the screen a vast, awe-inspiring picture of the universe as it would appear to the voyager through space. Realistic animation takes you into far regions of space, beyond the reach of the strongest telescope, past moon, sun, Milky Way, into galaxies yet unfathomed.

Price: \$100.00

106C 0164 004

Magic Molecule

9 minutes color

Here is the new world created by the techniques and processes of the plastics industry. Transmuted from coal, oil or wood, synthetic substances can make thousands of new products, from silken threads to furniture. In light and lively treatment the film explores the colorful, versatile world of these man-made materials.

Price: \$90.00

106B 0160 066

Physics of Underwater Sound:

Basic Principles

18 minutes 41 seconds black-and-white

106B 0160 067

Physics of Underwater Sound:

Velocity Profiles

23 minutes 35 seconds black-and-white

106B 0160 068

Physics of Underwater Sound:

Absorption and Scattering

15 minutes 58 seconds black-and-white

These three films consist of film lectures by Dr. J. B. Hershey of the Woods Hole Oceanographic Institution, Massachusetts, and are illustrated by animated diagrams. *Basic Principles* deals with sound as a wave form related to a sound ray, showing how the sound ray travels through substances of varying density and compressibility which act upon it to change its direction. *Velocity Profiles* elaborates on basic theory and demonstrates sound travel in ocean waters, stressing the effects of temperature differences and explaining long-range sound channels in the oceans. *Absorption and Scattering* shows how sounds are weakened when travelling great distances and how this sound loss is dependent upon the frequency of the sound.

Price: \$90.00

Price: \$75.00



Price: \$100.00 106C 0168 174
DNA
 10 minutes 14 seconds color
 The invariable likeness of an offspring to its parents, whatever the species, has been traced to a unique molecule that controls the production of proteins and transmits characteristics. This genetic material, deoxyribonucleic acid, or DNA—the hereditary material of life—is described and illustrated in this film by color animation. Mutations are also discussed.

Price: \$180.00 106C 0169 021
Fields of Space
 18 minutes 38 seconds color
 Accomplishing through film animation what even the most farseeing telescope cannot do, this film explores the fourth state of matter, the plasma that fills the infinite void between stars and galaxies, showing how each object in space, from single atom to planet, has its own magnetic field, attracting streams of invisible particles. The film has the same awe-inspiring quality as the film, *Universe*, with color adding to its wonder and dimension.

Price: \$220.00 106C 0167 225
Atomic Energy in Canada (1968 revision)
 26 minutes 53 seconds color
 A look at what has been happening of late in Canada's nuclear laboratories where new uses of atomic energy are being pioneered; the reactors at Chalk River and how they function; the production of radioactive isotopes for use in medicine, agriculture, industry; the Douglas Point prototype nuclear power station.

Price: \$220.00 106C 0168 156
Douglas Point Nuclear Power Station
 26 minutes 5 seconds color
 Describes how the first full-scale nuclear power station at Douglas Point, Ontario, has shown the way to economic large-scale production of electricity from uranium. The process by which the uranium atom is split, employing heavy water with a special property, deuterium, is described.

Price: \$260.00 106C 0167 156
Isotopes in Action
 28 minutes 15 seconds color
 Here is a fascinating exploration, in layman's language but of particular interest to students, of what today's radioactive isotopes are and what they can do in industry, in medicine, in agriculture, in preservation of food and in strengthening of plastics. Also shown are Canada's Chalk River nuclear reactors and laboratories, the nature and use of Cobalt 60, and much else that is new in atomic science.

Price: \$220.00 106C 0159 012
Radiation
 26 minutes 28 seconds color
 This film explores how heat, radio waves, x-rays and gamma rays affect various forms of life. It takes you to the radiological department of a modern hospital, to Canada's Chalk River atomic research center, and to the Brookhaven National Laboratory in the United States where plant growth is subjected to gamma radiation.

Price: \$150.00 106C 0166 085
All Systems Go
 16 minutes 37 seconds color
 The systems are Canadian, and they form all, or part of, aircraft and aircraft developments that seem here to be well out in front. This film shows them, and the planes, with style and clarity.

Price: \$75.00 106B 0163 005
Alouette—Canada's First Satellite
 14 minutes black-and-white
 The design, construction, function, and launching of Canada's first earth satellite. On the other side of the ionosphere, Alouette tracks the solar disturbances that affect radio communication and transmits much information useful for research purposes.

Price: \$100.00 106C 0160 069
Antenna Fundamentals
Part 1: Propagation
 12 minutes 32 seconds color

Price: \$100.00 106C 0160 070
Antenna Fundamentals
Part 2: Directivity
 12 minutes 13 seconds color

Price: \$100.00 106C 0160 071
Antenna Fundamentals
Part 3: Bandwidth
 11 minutes 28 seconds color
 These three films combine color, animation and sound to clarify the principles of radio-wave transmission. They illustrate how antennas propagate radio waves and how they may be adapted to increase the directivity and the bandwidth of transmissions. All are concerned with theoretical concepts likely to remain unchanged, rather than with apparatus which may be subject to revision.

Price: \$150.00 106C 0164 183
Auroral Rocket
 14 minutes 3 seconds color
 Shows the firing of the Canadian-built Black Brant rockets at Fort Churchill, Manitoba, and explains how the National Research Council employs them in studying the aurora and the ionosphere at altitudes of from 40 to 500 miles.

Price: \$75.00 106C 0166 021
Energy and Matter
 8 minutes 33 seconds color
 A look at energy and what it is, designed to encourage understanding and experiment among even the youngest of budding physicists. The film pictures energy in familiar forms—light, heat, motion, etc.—and shows its origin in the sun. The illustrations are in colorful animation.

Price: \$180.00 106C 0164 022
An Essay on Science
 19 minutes 33 seconds color
 A film to show what happens at Canada's National Research Council, a complex of odd-shaped buildings on the outskirts of Ottawa. Here scientists work on the frontiers of knowledge and, involved though most of the work is, many aspects of it have a fascinating visual effect. Areas of research examined by the film include applied science, medicine, chemistry and biology. [Also available in an 11 minute 36 second abridged version entitled *The Way of Science* (106C 0165 070). Price: \$100.00.]

Price: \$150.00 106C 0159 018
An Introduction to Jet Engines
 13 minutes color
 A vivid, realistic view of the inside of a modern jet engine. Animated drawings show simply and clearly how a jet engine develops thrust. Both the centrifugal and axial flow engines are shown. The subject and style of the film is so simple and inherently dramatic that it will please a wide variety of audiences.